

Abstract of the Invention

Methods and systems for distinguishing an auditory alert signal from a background of one or more non-alert signals. In a first embodiment, a prefix signal, associated with an existing alert signal, is provided that has a signal component in each of three or more selected frequency ranges, with each signal component having a signal level at least 3-10 dB above an estimated background (non-alert) level in that frequency range. The alert signal may be chirped within one or more frequency bands. In another embodiment, an alert signal moves, continuously or discontinuously, from one location to another over a short time interval, introducing a perceived spatial modulation or jitter. In another embodiment, a weighted sum of background signals adjacent to each ear is formed, and the weighted sum is delivered to each ear as a uniform background; a distinguishable alert signal is presented on top of this weighted sum signal at one ear, or distinguishable first and second alert signals are presented at two ears of a subject.